

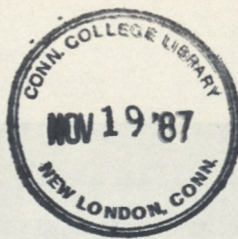
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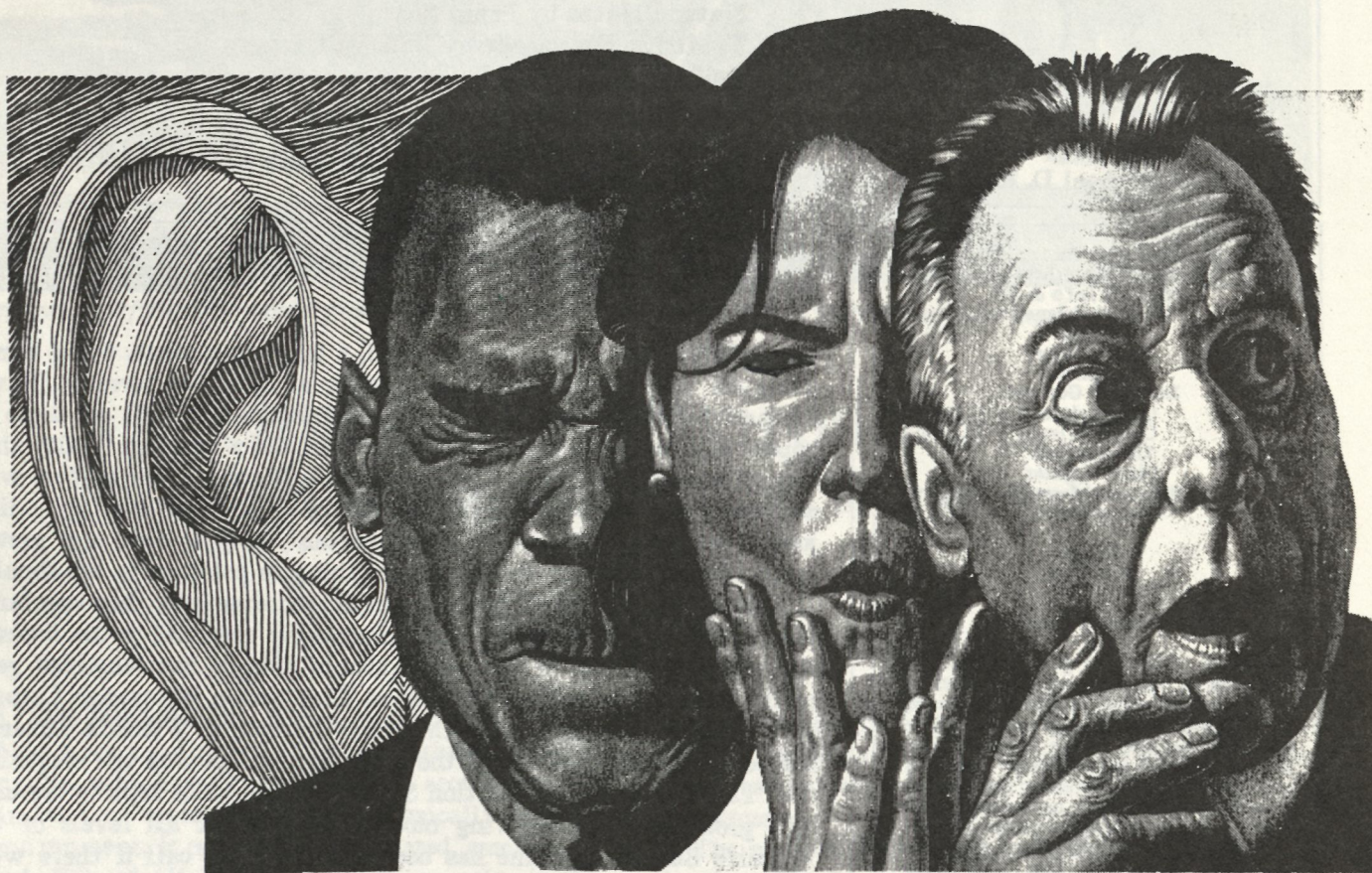


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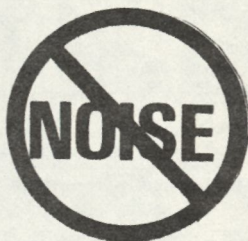
The Connecticut Department of Environmental Protection



LOUD NOISE

Citizens' Bulletin

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Cover by Michael D. Klein

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Editor's Note

People have been asking us for, well, a long time, about doing something on noise pollution. This month, at last, we have it. Environmental Intern Peggy Carter, whose neat work will continue to appear in up-coming issues of the *Bulletin*, did a bang-up (really that was unintentional) job on this assignment. We think our readers will definitely get something valuable out of this. Good hearing — like just about everything else — is important, easy to lose, and pretty much irreplaceable. If we can do anything to preserve it, we should.

This might be a good time to thank someone who has regularly been providing entertaining and informative material to the *Bulletin* but who, by virtue of the mechanics of things, has remained generally unsung and behind the scenes. That person is Suzanne Caturano, a wildlife biologist with the DEP's Bureau of Wildlife. Suzanne has been the source of one of the most popular spots in the magazine, the "DEP Wildlife Information Series." While these reports are usually group-written, drawing on the expertise of all levels of the Wildlife Bureau, Suzanne has been the person to call if there were any problems, and the person who has been able to produce an article on very, very short notice. Thanks for the good help, Suzanne.

Finally, briefly, this word from our sponsor. On page 16, we have another notice on our five subscriptions/free poster deal. Any business you could throw our way, etc., etc.

Happy Thanksgiving. Thanks for hanging with us.

RJ



Downtown traffic. The noise from a passing truck (80 dB) can cause permanent hearing loss.

Our Noisy Environment

Noise is not only unpleasant; it can shorten your life

by

Margaret A. Carter
Environmental Intern

NOISE POLLUTION. It's an odd concept because noise, as a pollutant, is not something material or tangible, which we can clearly see accumulate in the air, land, or water. It does not physically degrade the environment. It cannot be seen, tasted, smelled, or touched. Yet, of all types of pollution, noise is the most pervasive and varied. It is literally everywhere, as are its deleterious effects.

NOISE IS ANY UNWANTED SOUND and, as such, is America's most widespread nuisance. But it is more than that. Noise constitutes a clear and

present danger to public health. Day and night, at home, at work, and at play, noise can produce serious physical and psychological stress. No one is immune to this stress.

The most obvious effect of noise pollution is hearing loss. The loss usually happens gradually, slowly reducing the ability to communicate. Unfortunately, by the time the damage has occurred, it is too late to recover what has been lost. There is no cure. Although they may be of some help to some people, hearing aids cannot restore noise-damaged hearing.

A common misconception is that hearing loss is caused only by industrial noise. In reality, noise loud

enough to cause hearing loss is virtually everywhere today. Over 87 million Americans are currently being exposed to environmental noise above safe levels, as identified by the Environmental Protection Agency (EPA). Twenty million or more Americans are estimated to be exposed daily to noise that is permanently damaging to their hearing. Consequently, hearing loss is one of America's most common chronic disorders. And people with partial deafness from exposure to noise do not necessarily live in a more peaceful, quieter world. Instead, sounds may be distorted in loudness, pitch, apparent location, or clarity. The hard-of-hearing person faces further pain and alienation when friends become less willing to be partners in conversation or other activities.

But how can we be sure that "noise pollution" is in fact the cause of such hearing loss? Evidence is provided by a scientific study conducted in an isolated area in Africa. After testing elderly tribespeople and their youthful counterparts, the scientists found that people in their 70s and 80s had hearing sensitivity nearly equal to that of youngsters, and equivalent to Americans 30-40 years their junior. In contrast, the elderly of more developed countries show significant hearing loss with age.



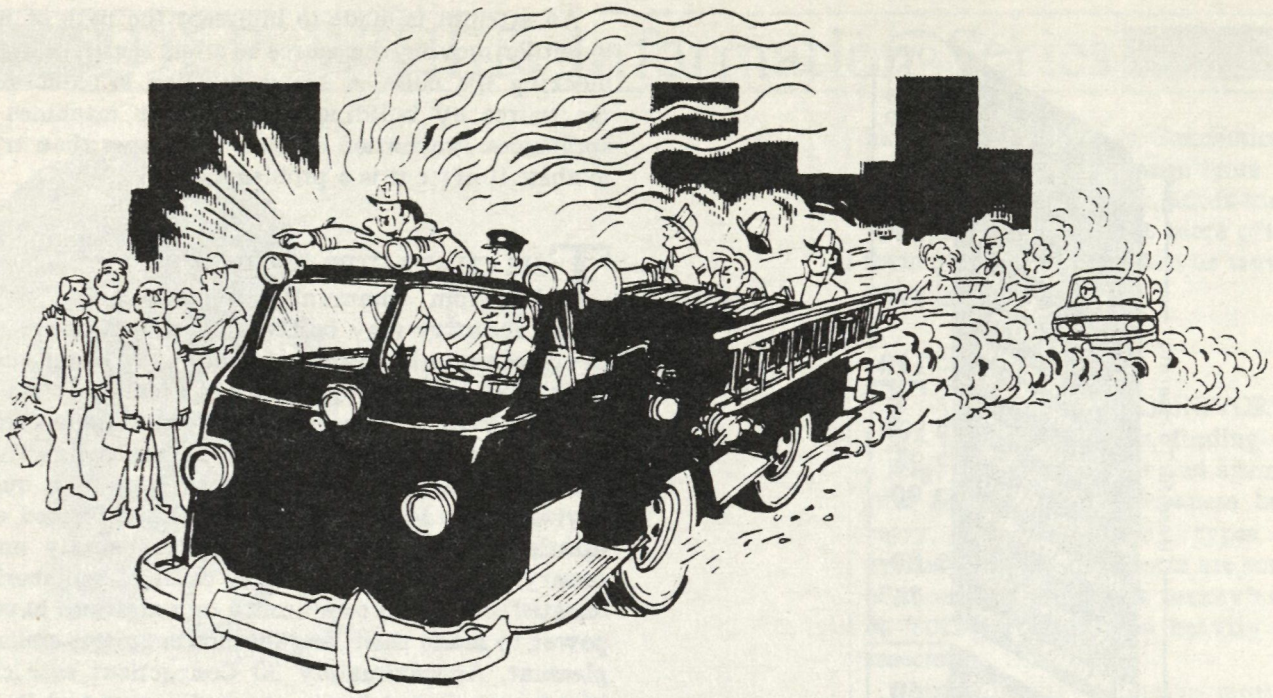
NOISE CAN HARM more than just our ears. When the brain perceives noise, it reacts. Most of us automatically interpret unexpected noise as danger, a signal to prepare for fight or flight. It may be a subconscious reaction, but it also involves identifiable, overt physical changes. Even a sound of moderate volume and short duration, such as a heavy truck passing (80 dB), produces a remarkable number of physical changes: blood vessels in the brain dilate, while blood vessels in other parts of the body constrict; blood pressure rises, and the heart rhythm changes; the pupils of the eyes dilate; the blood cholesterol level rises; various endocrine glands pour additional hormones into the blood; even the stomach changes its rate of acid secretion. While we may seem to adjust to noise by ignoring it, the ear, in fact, never closes and the body still responds. And while most of these reactions are only temporary, the modern environment presents such ever-changing noise levels that some of these "temporary" effects become chronic.

Noise has been linked to heart disease due to the stress caused by the increased adrenaline, changes in heart rate, and elevated blood pressure. Many physicians require a reduction of noise exposure for heart patients. Some other health effects of noise include ulcers, asthma, hypertension, headaches, loss of sleep, emotional strain, and colitis. It is also thought to lower individual resistance to infection and disease. In addition, noise has been shown to affect fetuses by leading to low-weight babies and birth defects.

The development of children also may be hindered by excess noise. Learning difficulties are likely by-products of noisy schools, play areas, and homes. Because they are just learning, children have more difficulty understanding language in the presence of noise than adults do. As a result, if children learn to speak and listen in a noisy environment, they may have difficulty in distinguishing the sounds of speech.

Noise hinders worker efficiency. Exhaustion, absentmindedness, mental strain, and absenteeism are other effects of noise on workers. The inability to hear warning signals is also a distinct danger.

MOST NOISE PROBLEMS can be solved. In the 1970s, the federal government began taking steps to reduce noise in our environment and to increase general knowledge of the effects of noise. The Federal Noise Control Act of 1972 made noise pollution a concern of Congress. The law was written "to promote an environment, for all Americans, free from noise that jeopardizes their health or welfare." Under this law, the EPA coordinates all federal programs relating to noise research and noise control. In 1974, a document was issued setting specific noise levels to protect public health and welfare.



Noise levels are established on the basis of logarithmic units called "decibels" (dB). The hearing threshold — the point where a person begins to hear sound — starts at zero dB. An increase in 10 decibels presents a 10-fold increase in acoustic energy, while an increase of 20 decibels corresponds to a 100-fold increase in acoustic energy. However, the human ear also works logarithmically. Hence, our perception of the noise increase (loudness) works in such a way that each 10 dB increase in sound level is perceived as approximately a doubling of loudness. The noise produced by a nearby heavy truck (90 dB) seems twice as loud as an alarm clock (80 dB), but four times as loud as freeway traffic (70 dB). Anything over 70 dB, sustained, is considered harmful. This level of noise raises cholesterol level, blood pressure, and heartbeat. Noise in average communities runs to 70 dB and up. Continuous exposure (eight hours a day for a number of years) to noise levels greater than 80 dB (street noise average) can cause permanent hearing loss. Sound levels of 125 dB have been recorded in some discos; such noise is at the edge of pain and is unquestionably deafening. Noise levels as high as 135 dB (carrier deck operation) should never be experienced, even for a brief period, because the effects can be instantaneously damaging. If the noise level exceeds about 150 or 160 dB, the eardrum might be ruptured beyond repair. A common rule of thumb is when a person has to raise his or her voice to be heard, the background noise can be injurious.

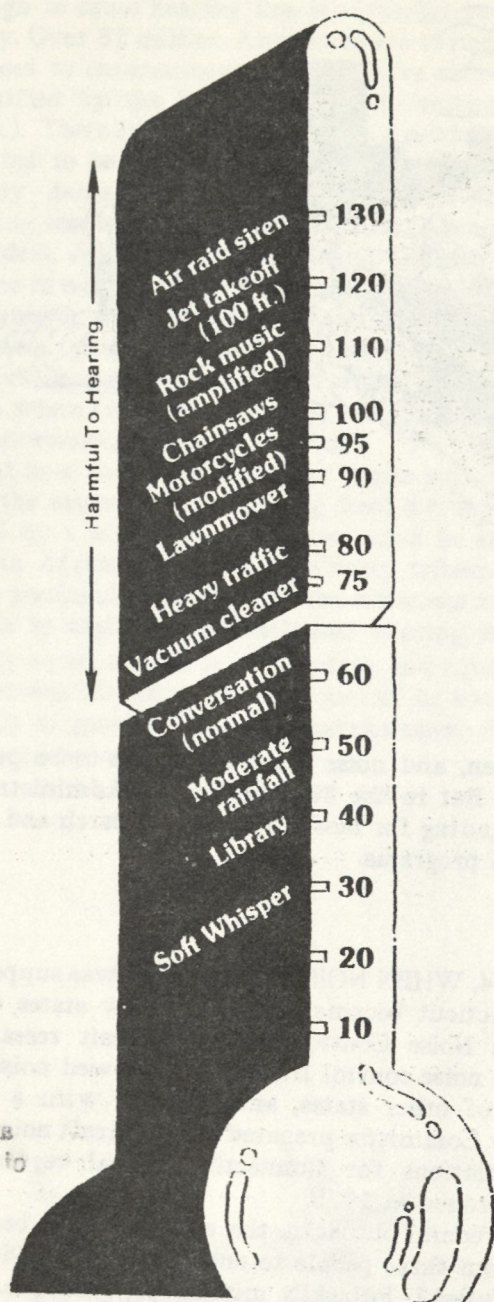
In learning these tolerance levels, which vary from one individual to the next, the EPA set objective noise levels which were enforceable. Further research was

undertaken, and noise level tags were to be put on products. But in the 80s, the Reagan Administration halted funding for most EPA noise research and noise reduction programs.

IN 1974, WHEN NOISE RESEARCH was supported, Connecticut became one of the few states to establish a Noise Control Unit. The unit researched available noise control literature, reviewed noise regulations of other states, and together with a Noise Advisory Committee prepared a set of draft noise control regulations for Connecticut. Final regulations were approved in 1978.

With federal cutbacks, the unit has since been reduced from three people to one person, Unit Director Joseph Pulaski. Pulaski's mission is to reduce noise problems in the state. In particular, he addresses stationary noise problems such as ventilating systems, fans, and air conditioners of individuals and organizations, including large companies, supermarkets, and factories. The regulations are stricter when the noise is more noticeable, such as in suburban areas and at night.

But the Unit does not control all noise problems in Connecticut. For instance, domestic and wild animal noises (such as dog barks and — the subject of a recent complaint — spring peeper peeps) are exempt from the jurisdiction of the Unit. Also exempt are farming activities, aircraft, riots and catastrophes, patriotic celebrations no more than a day long, and highway noises.



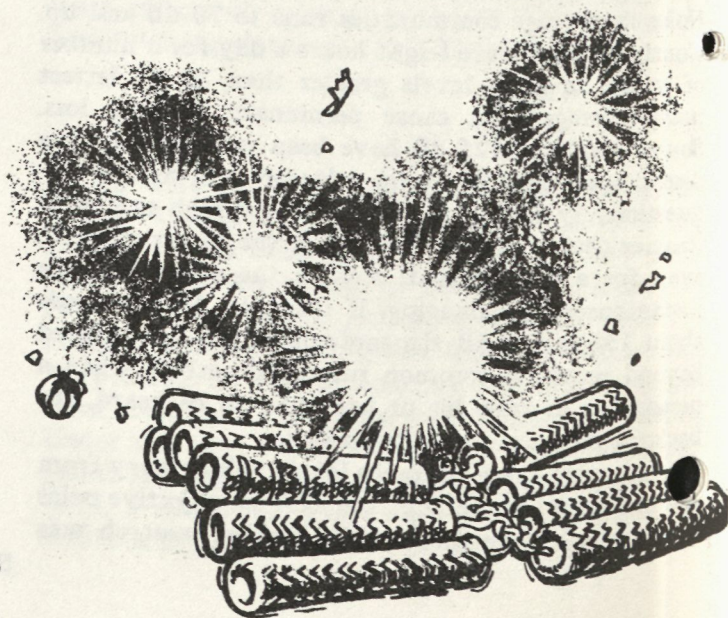
Sound levels in decibels.
(Reprinted from an EPA publication)

Nonetheless, the Unit has its hands full with the noise problems of highly industrial and urban Connecticut. Pulaski suggests that citizens perceiving a noise problem should first contact the person or organization responsible. Pulaski states that many noise problems are easily resolved in this manner. If the noise continues despite the personal complaint, the problem should be brought to the attention of Pulaski. He will visit the problem area and measure the noise level. If indicated, he will send a violation notice. If these measures are still not successful, Pulaski will take the issue to Court.

An attempt is made to intercept the path of noise, by either moving the source to a less sensitive area, or blocking the noise. A better solution is reduction of the source by building new, quieter machines and appliances. Prevention of noise is cheaper than trying to abate it after it is a problem.

THE CHARACTER AND AMOUNT of noise varies from community to community. Where heavy industry may be the source of excessive noise in one community, vehicular noise may be the culprit in another. In many cases, noise is a local problem that requires local solutions. Only if *individuals* demand quieter appliances and stricter regulations will the industries and government work toward a quieter environment. Many communities have formed organizations to curtail unwanted, and usually unnecessary, noise. Noise is a leading cause of neighborhood dissatisfaction, and community organizations have the power to make their neighborhoods quieter and more pleasant. Approximately 30 Connecticut municipalities have adopted local noise ordinances and Pulaski praises their success.

QUIET has now become a national resource, something which must be sought and protected, even in our national parks. The mind-set which equates power with noise, as evidenced by quiet yet powerful lawnmower which was constantly being returned due to a perceived "lack of power," needs to be exchanged with the realization that our auditory sense requires respite from unnecessary noise. Noise is *not* a necessary by-product of modern industrial society. Awareness of the noise around us, and of the surprising ease with which it can be removed, is necessary for such a vital change.





The Season of the Turkey

THE eastern wild turkey (*Meleagris gallopavo*) is a large, majestic bird. It stands about three feet tall, weighs up to 25 pounds, and is streamlined, unlike bulkier domestic turkey. Males, or "toms," are dark in coloration, with iridescent feathers. The fleshy, unfeathered head is brightly-colored in red, white, and blue, especially during the mating season. Toms also have spurs (up to 1.5 inches in length) on their legs, and a hair-like beard (up to 12 inches long) protruding from their breast.

The female turkey, or "hen," is lighter in coloration (brown and buff-colored). She lacks spurs and the head ornamentation which is present on the male, although 10 percent of the hens will have a beard. Hens tend to be smaller than toms, averaging eight to 12 pounds.

THE TURKEY was eliminated from Connecticut by 1813 due to a combination of habitat loss, subsistence hunting, and severe climate changes. As a result of the recent successful wild turkey restoration programs in Connecticut, sportsmen have been able to hunt this majestic bird since 1981, and

landowners and others have enjoyed observing them in their natural state.

Connecticut regulations prohibit the release of any turkey into the wild. Releasing pen-raised wild turkeys will only jeopardize the expansion and survival of the existing wild turkey population. Birds raised in captivity are hosts to a reservoir of diseases as well as being a weaker genetic strain. It is not recommended to feed wild turkeys, as this encourages illegal hunting and the spread of disease.

THE BREEDING SEASON starts in late March and early April, when the toms begin gobbling and displaying for the hens. Turkeys are considered polygamous breeders, as toms will mate with many hens, and hens may breed with more than one tom. Hens lay a clutch of from eight to 14 eggs, which are incubated for 28 days. Once hatched, the poults will remain with the hen throughout the summer, fall, and winter. In late summer, hens and their broods join up to form flocks. Flocks of up to 100 birds

have been reported in Connecticut, but more commonly range from 10 to 20 birds. On occasion, adult toms will join the flock, but more often form groups of their own or travel as individuals.

TURKEYS ARE OMNIVORES and opportunists, feeding on a large variety of plant and animal life. Acorns, grapes, Japanese barberry, corn, and many types of available seeds and insects are some of the many foods in a turkey's diet. Young turkeys feed heavily on insects.

Predominantly found in mature forests, adult turkeys rely heavily on mast-producing (hard fruit) trees, such as oak, hickory, and beech. Recent land usage trends in Connecticut have favored the expansion of the wild turkey. Throughout Connecticut and most of New England, the land is once again returning to forest.

Turkeys seek active, agricultural areas, and frequently can be seen foraging in fields that border forestland. The wild turkey may range over several square miles in one day. The tracks of an adult tom are six to seven inches long; adult hen tracks are up to five inches long.

The wild turkey fares better in less-disturbed areas. However, in some areas of dense human population, where food and cover are plentiful, turkeys have adapted and seem to survive well. Few predators are able to catch an adult wild turkey. Their well-developed instinct for survival and excellent eyesight and hearing help to keep them out of harm's way. Hens on the nest, as well as poults during their first few weeks of life, are most vulnerable to predation. Free-ranging domestic dogs can severely reduce nesting success in populated areas.

THANKS TO the restoration program involving the trap and transfer of wild turkeys throughout the state, Connecticut now has a healthy, growing population of wild turkeys for the first time since the late 1700s. Landowners can help to encourage and maintain our wild turkey population through various wildlife habitat improvements:

1. Leave a high percentage of mature (14-inch diameter or larger) mast-producing trees, such as oak, hickory, beech, and ash.

2. Create small, irregular-shaped one- to three-acre openings isolated from roads and houses. Openings should be cleared (every one to three years), preferably in late summer — at this time there is little chance of disturbing a nest.

3. Encourage multiflora rose, Japanese barberry, grape vines, cedar trees, juniper bushes, and winterberry to produce food and cover. Various wildlife shrubs are available through the DEP State Nursery in Voluntown.

4. Pick corn rather than cut it for silage. In addition, it is beneficial to leave a few edge rows of corn (preferably in isolated areas) as a winter food source.

5. Leave clumps of conifers for cover, such as hemlock or white pine. As a general rule, the best turkey habitat consists of 50 - 75 percent forestland, with half of this in mature hardwood and 10 percent in conifers. An average of 10 to 40 percent of the land should be in openings, such as old, abandoned fields, or agricultural areas.

References and Further Reading

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The majestic wild turkey is an omnivore, and may weigh up to 25 pounds. (Photos: Leonard Lee Rue)



This wild turkey, just out of the shell.

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The Technical Assistance Information Series is 75 percent funded by Federal Aid to Wildlife Restoration — the Pittman-Robertson (P-R) Program. The P-R Program provides funding through an excise tax on the sale of sporting firearms, ammunition, and archery equipment. The remaining 25 percent of funding is matched by the Connecticut Wildlife Bureau.

The Year of the Wetlands

by
Nancy Kriz

FIFTEEN YEARS HAVE ELAPSED since the passage of the Inland Wetlands and Watercourses Act by the General Assembly. The 1972 legislation arose from an understanding of wetlands' ecological and functional roles and diverse values and the realization that many of Connecticut's original wetlands had been filled, excavated, drained, dredged, or otherwise degraded.

Connecticut was one of the first states to enact such legislation. While the clear intent of Public Act 155 was to "preserve and protect" the inland wetlands, the law did not prohibit actions in or near these sensitive areas. Instead, it initiated a regulatory program in which specific activities were to be evaluated in terms of environmental impact to determine whether these activities should or should not be permitted. The wetlands themselves were defined by soil-type (which, in turn, was determined by the constant, seasonal, or intermittent presence of water).

The Act gave the commissioner of the DEP the authority both to regulate wetlands and to delegate those responsibilities to municipalities. By 1975, most towns had enacted ordinances and promulgated regulations based on a prototype designed by the DEP, but tailored to the municipalities' individual circumstances and needs. At this writing, 157 towns possess inland wetland agencies. Twelve towns have chosen not to accept regulatory responsibilities and continue to remain under DEP supervision. (These towns will now be required to establish their own agencies which will allow DEP staff to provide additional services to all commissions.)

RECENTLY, there has been an apparent increase in the destruction of wetlands across the state. The Council on Environmental Quality (CEQ) examined wetlands issues in great detail in its 1986 annual report. In an extensive data collection process, CEQ consulted with local commissioners, DEP staff, town planners, attorneys, and other concerned parties. It became clear that immediate corrective

measures were needed, including legislative initiatives.

The CEQ report drew attention to the following facts and estimates:

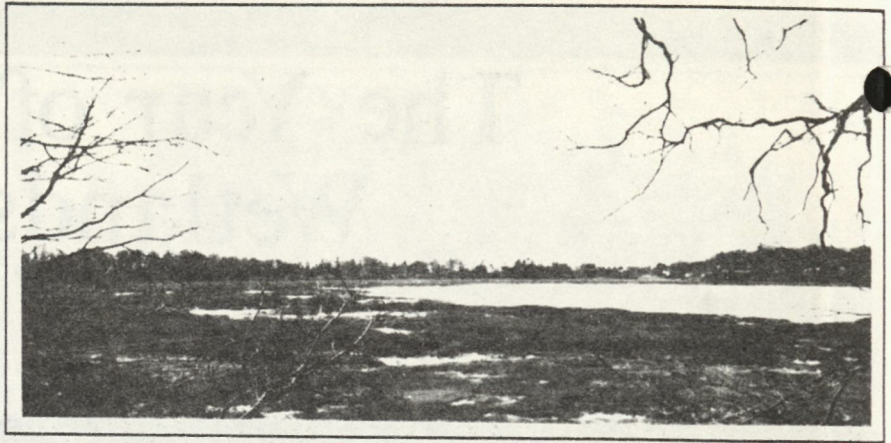
- Approximately 15 percent of Connecticut's land area is classified as wetlands and watercourses.
- Translated into acreage, calculations of remaining inland wetlands range from 380,000 to 435,000 acres.
- We have been losing from 1200 to 1500 acres of wetlands annually.

Some reasons for these losses have included:

- Illegal filling and other unpermitted actions.
- A lack of penalties assessed against violators.
- Exemptions in the Act.
- A misperception among commissioners that their function was to grant permits.
- Insecurity on the part of commissioners concerning their own knowledge and experience in the decision-making process.
- A tremendous increase in the value of raw land, coupled with a current heavy development trend.
- Minimal availability of technical assistance or expert legal advice to local agencies.
- Few educational opportunities for either newly-appointed or experienced commissioners.
- Pressure on volunteer commission members to decide in favor of economic rather than environmental factors.

THE 1972 ACT WAS EXPLICIT in most of its definitions and exemptions. The language, however, was occasionally ambiguous. While decision-makers were encouraged to balance growth needs and environmental quality, actual judgements were made "according to a vague system of weighing so-

A 1986 report indicated an apparent decrease in the state's wetlands. Pictured here, Branford Harbor. (Photo: Dan Rothenberg)



cietal costs and benefits." (Council on Environmental Quality. *Connecticut Environment Review*. 1986.) In the complexities of implementing the requirements of the Act, its basic intent was often lost.

To illustrate how and why the system fell short, the following scenarios, based on documented cases, are offered:

Case Study I: An application for a 30-lot subdivision is submitted. Access to 15 houses will necessitate the filling of two acres of wetlands. The developer reports that the 15 lots cost him \$0.5 million. His attorney states that a denial would constitute "a taking," and that if this occurs, the developer will go to court. The commission consults with the town attorney who disagrees with the "taking" interpretation but says there's no money in the town's budget to pay him for any court work. The commission grants the permit and the wetlands are filled.

Case Study II: A farmer fills a 10-acre wetland area adjacent to a 20-acre cornfield, claiming he is extending his field and is exempt from regulation under the agricultural "permitted uses" portion of the statutes. Six months later, he sells the entire parcel, which is subdivided.

Case Study III: A prominent businessman commences construction of an apartment complex on a hillside. Thousands of cubic yards of material will need to be transported off-site. The construction company is owned by an elected official of that county. There is a red maple swamp across from the condominium. The official calls the owner to ask if he'd like some clean fill. The owner says he believes the area is a wetland but he'd like to fill it in to build a gas station. The official knows the chairman of the wetlands commission and says he will "arrange a permit." He explains the situation to the chairman who "knows" the area, that it's just "low land," and

he says to go ahead and fill it in.

A concerned citizen, appalled by the destruction of the swamp, calls the town hall to discover that no permit has been issued, that the commission met only once during the year, that there are no minutes of that meeting, and that there is no official wetlands map. He takes a drive around town and locates three other recent fill sites totalling 12 acres.

Case Study IV: A 15-acre subdivision created in 1971 in a suburban community originally contained five houses. A three-acre wetland area remained undisturbed and served to retain runoff water and provided habitat for song birds and small mammals. By 1986, land values had reached \$15 0,000 per acre. The subdivider filled the wetlands, creating buildable land where none previously existed. No permit was required under the "permitted uses" grandfather clause.

Case Study V: A developer buys a 100-acre forested tract containing several streams and 20 acres of wetlands, including a peat bog. "Logging roads" are constructed throughout the parcel, culverts are installed, wetlands are filled, a stream is diverted. The property is clear cut and a severe erosion problem results. The developer claims exemption under the "harvesting of crops" provision in the Act.

Case Study VI: Engineered site plans for a 50-unit condominium complex on a 75-acre parcel are presented to a wetlands agency. The road frontage portions are 90 percent wetlands. The back 35 acres are fairly steep, forested with hemlock, and contain bedrock outcroppings. The parcel is serviced by both sewer and water lines. The plans call for the units to be constructed on the 30 acres nearest the road, requiring the filling of 15 acres of wetlands. A commission member asks if it wouldn't be wiser to build the condos on the hillside and preserve the wetlands.



In protecting wetlands, such as the marsh at Hammonasset Beach, we preserve some of our state's most valuable resources. (Photo: Ron Rozsa)

The engineer answers that it would be "prohibitively expensive" to clear the area, to blast the ledge to construct driveways, and to run the sewer and water connector lines.

THE 1987 AMENDMENTS to the Inland Wetlands and Watercourses Act as signed by Governor O'Neill on July 1, if interpreted and applied as intended, would alter the previous scenarios as follows:

Case Study I: With the provision of educational programs for commissioners mandated in the revised statutes, legal procedures and terminology including what constitutes a "taking," will be more clearly understood. With interpretive assistance, commissioners will be better prepared to challenge attorneys and engineers, to request appropriate information, and to be able to firmly and confidently render denials when appropriate.

Case Study II: Filling of wetlands, even as related to farming operations, will require the issuance of permits.

Case Study III: This commission was obviously incompetent, politically influenced, and not fulfilling its responsibilities under the Act. The DEP will now possess the clear authority to issue violation notices and to temporarily revoke the regulatory powers of such a commission.

Case Study IV: The grandfathered subdivision clause has been removed and any regulated activities will require permits.

Case Study V: While the language "harvesting of crops" remains in the permitted uses section, it has

been amended to exclude road construction, relocations of water courses, and clear cutting of timber (except for the expansion of crop land).

Case Study VI: "Feasible and prudent" alternatives now must not only be taken into consideration by a commission, but a permit "shall not be issued" if such alternatives exist. In the cited case, the permit could be denied on the basis that the prudent alternative of constructing the condos on the upland soils exists, that while this alternative may be more costly, it may be feasible. In this case, it would be up to the commission to take financial and engineering factors into consideration in making a final determination.

AS TAX PAYERS AND MEMBERS of the electorate, we too often expect our legislators and elected officials, our state agencies and land use decision-makers to do it all for us; to draft and enact the laws, to regulate, to enforce, to educate, to protect. This is unfair. Each citizen has a responsibility to the community, to inform the proper authorities about violations, to attend public hearings, to voice opinions, to insist on the appointments of qualified and conscientious commissioners, to support fair decisions and denounce politically-influenced ones, and — perhaps most important — to teach others. The preamble to the Inland Wetlands Act states we must attempt to "balance the need for the economic growth of the state and the use of its land with the need to protect its environment and ecology in order to forever guarantee to the people of the state the safety of such natural resources." With developing additional scientific knowledge and technology concerning wetlands and anticipated continued growth pressures, the weighing and balancing in land-use regulation will become proportionally more difficult. Volunteer commissioners deserve supportive public recognition of their efforts. ■

The First Thanksgiving

by
Carol Davidge
Public Information Coordinator
The Connecticut State Museum
of Natural History

CONNECTICUT was the first of the American Colonies to celebrate Thanksgiving every year, a tradition continuing from 1649 through the present.

The Pilgrims at Plymouth, the Puritans in Boston, and early European settlers in Maine, Florida, Texas, and Virginia all claim the "first Thanksgiving." The celebration of these events, however, was not repeated consistently. So, according to Diana Karter Appelbaum in *Thanksgiving*, it was in Connecticut that the annual tradition of celebrating Thanksgiving actually began in America.

The event most of us think of as the "first" Thanksgiving was a celebration in the autumn of 1621 when the Pilgrims at Plymouth invited 90 Wampanoag Indians with their sachem, Massasoit, to a harvest feast that lasted three days. In December, 1620, the Pilgrims had arrived at Plymouth aboard the *Mayflower*. They brought insufficient food, and half of the 102 settlers died during that harsh winter.

The following summer, Squanto, an Indian, taught the newcomers to plant corn, pumpkin, and squash, as well as to hunt and fish. After a good harvest, Governor William Bradford declared a feast day. There was no milk, butter, cheese, flour,

or bread. Cattle were not native in America, and since none had been brought on the *Mayflower*, the Pilgrims had no dairy products. The Indians brought five deer. The Pilgrim women cooked pumpkins,

boiled corn, and baked corn cakes, as they had been taught by the Indians. Fish and fowl were abundant.

It was the practice of both Pilgrims and the Puritans in Boston and Connecticut to call for days de-





voted to giving thanks when deemed appropriate by religious or civic leaders. For example, the first Thanksgiving in Boston occurred on February 22, 1631. It had been called by Governor John Winthrop as a day of fasting to bring inspiration to the starving Puritans. However, on that day a ship, the *Lyon*, arrived with supplies, and the governor changed the fast to a feast.

Along the Connecticut River in the Hartford area there was a strong feeling that the settlers should devote a day for giving

thanks every year, whether the harvest was bountiful or bleak. The first known proclamation was issued on September 18, 1639. Several others followed. Then, beginning in 1649, Connecticut celebrated Thanksgiving every year — except for 1675, when King Philip's War between the natives and whites disrupted the routine.

THANKSGIVING became a very special occasion throughout Puritan New England, which, until about 1700, allowed only three holidays per year: Muster Day for the drilling of militia, Election Day, and the Harvard Commencement. Even Christmas was not a holiday, with laborers receiving fines if they missed work. The Puritans saw paganism and idolatry in most traditional English festivities, rather than prayer and devotions.

So, some of the traditions associated with other English holidays crept into Thanksgiving. In Britain, pie had been a favorite dessert. Because it was so easy to grow and kept well during the winter, pumpkin — made into big, square pies — became an early favorite of Colonial cooks. The other early American foods of corn, wild turkey, and cranberries were soon accompanied by the mince pie prepared for Christmas in England. Thanksgiving became reminiscent of "Harvest Home," a holiday when farmers in England brought in their last wagonloads of wheat and oats and the villagers joined together for merry-making.

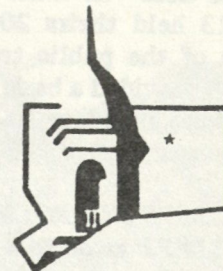
By 1700, Massachusetts and New Hampshire joined Connecticut in celebrating an annual Thanksgiving in the fall, a day of prayer and feasting. None of the Colonies to the south had annual Thanksgiving at that time.

The annual Connecticut proclamations always gave thanks for the blessings that had been bestowed

upon the Colonists and asked that "God Save the King." But in 1774, on the eve of the American Revolution, Governor Jonathan Trumbull issued a daring proclamation that asked God to "Preserve our Liberties and Peace," help insure the "just Rights of the Americans...and save the King."

Holding Thanksgiving on the fourth Thursday of November is credited by Appelbaum to Mrs. Sarah Hale, the editor of *Godey's Lady's Book*, and a native of New Hampshire. In 1846, she began a campaign to make the last Thursday in November a national holiday. In November, 1863, Abraham Lincoln proclaimed Thanksgiving a national holiday, a practice which was followed until 1939. That year, Franklin Roosevelt, yielding to pressure from retailers who wanted more shopping days between Thanksgiving and Christmas, changed the holiday to the third Thursday. The resulting public outcries led to a return to the fourth Thursday in 1942.

IN CONNECTICUT, Thanksgiving should be celebrated with pride and with gratitude for our blessings. This is also a time to remember the many important contributions of the original Americans, the Indians. On each table should be the native American foods of corn and pumpkin. ■



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The original 13 states have united to safeguard the tidelands. Pictured here, Oyster River in Old Saybrook. (CAM staff photo)

Supreme Court to Rule on the Tidelands

by

Diane Giampa and Jane Stahl
Office of Planning and Coordination
Coastal Management

IN THIS BICENTENNIAL YEAR of the U.S. Constitution, the 13 original states have joined together to offer the U.S. Supreme Court their unique perspective on an issue of national importance. The states have united to safeguard all states' rights to their tidelands and navigable waters which have historically been held in trust for benefit of the public.

In conjunction with the Coastal States Organization, the 13 original states — Connecticut, Delaware, Georgia, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, and Virginia — filed an *amicus curiae* brief with the Supreme Court in the case of *Phillips Petroleum v. State of Mississippi*. The resolution of this case rests squarely on the issue of what lands the original 13 states reserved as public trust tidelands when they created the Constitution.

The Constitution provides that as a new state enters the union, it does so on an "equal footing" with the original 13 states. Therefore, each new state is entitled to hold "in trust" its tidelands just as the original 13 held theirs 200 years ago. Further, the definition of the public trust lands reserved by the original 13 provided a basis for each successive state to determine the extent of its public trust tidelands.

PHILLIPS PETROLEUM V. STATE OF MISSISSIPPI arose as a property dispute between Mississippi and a private landowner over whether the state owned, and therefore had the right to lease, certain tidelands for oil and gas exploration. The Mississippi court's determination of ownership depended on what lands were granted to Mississippi at the time it became a state, to be held in trust for the public.

The *amicus curiae* brief filed by the 13 original states supports the supreme court of Mississippi's decision that under "equal footing," Mississippi had been granted and therefore holds all lands that were covered by the ebb and flow of the tide at the time of statehood.

Phillips Petroleum has asked the Supreme Court to overturn this decision and declare that public tidelands are not those covered by the ebb and flow of the tide but those adjacent to "navigable waters" — waters which can in fact accommodate vessels engaged in commerce. This would be a much narrower definition that could potentially remove thousands of acres of valuable lands from public stewardship. The impacts would be far-reaching and would have an effect on industry, commerce, public recreation, real estate, fishing, and state and federal regulatory and resource protection programs.

In filing this brief, the original 13 states are speaking with one voice to offer the Supreme Court their historical perspective on what lands were reserved by the Constitution's framers 200 years ago. The states' key points are that public trust lands are those that are covered by the ebb and flow of the tides, and that the delineation of public trust lands was not determined solely by whether nearby water could be navigated, but by the historic uses of the tidelands — such as fishing, shellfishing, navigation, and commerce. The states also point out that within the parameters of what lands are historically public trust lands, all the rights and responsibilities associated with these lands belong to the states themselves. The Supreme Court is expected to rule on the case by November 1987.

For Your Information

DEP Proposes New Air Quality Standards

ON AUGUST 28, DEP Commissioner Leslie Carothers announced that the original DEP regulations addressing emissions from resource recovery facilities and the testing of their residue have been modified.

The DEP, Carothers said, is proposing an air standard for dioxins that will be the first such ambient standard established by any political subdivision in the country. The newly proposed standard, which takes into account the fact that these chemical compounds are introduced into the atmosphere by many activities — including pesticide application, chemical plants, wood stoves, automobiles, and incinerators, as well as resource recovery facilities — should be more than adequate to protect health and the environment.

In addition, Carothers said, the DEP has completed its work on regulations for certification and training of resource recovery facility operators and municipal inspectors, and is sending these to the Legislative Regulations Review Committee for approval.

"The State of Connecticut has made a major commitment to using state-of-the-art programs and technology to manage our municipal waste," Carothers said. "This ambitious program will not succeed unless all of our disposal activities are conducted in a manner that protects public health and the environment. The public must be assured that air emissions and ash from resource recovery incinerators will not impair the health of our citizens

or cause dangerous pollution of our air, land, and water." The modified regulations, she said, will provide this assurance.

THE LEGISLATURE has directed the DEP to establish a health-based ambient air quality standard (a limit on the total amount of the pollutant that can be present in the air) that takes into account impacts from all sources of dioxins, Carothers added.

Dioxins have been a major public concern because of the potential for their emission from resource recovery plants. The emissions control regulations used by the DEP set a binding limit on emissions from all sources of dioxins in an area. In addition, emissions control requirements for resources recovery facilities in Connecticut continue to call for best available control technology.

The DEP has initiated background sampling in the mid-Connecticut and Bristol areas, and will continue to sample for dioxins after these plants begin operating. In addition, Carothers noted, Connecticut's resource recovery plants will all be constructed with computerized, continuous emissions monitoring equipment to provide

for immediate response to any violations of dioxin emission levels.

The modifications, Carothers said, should not affect plants under construction.

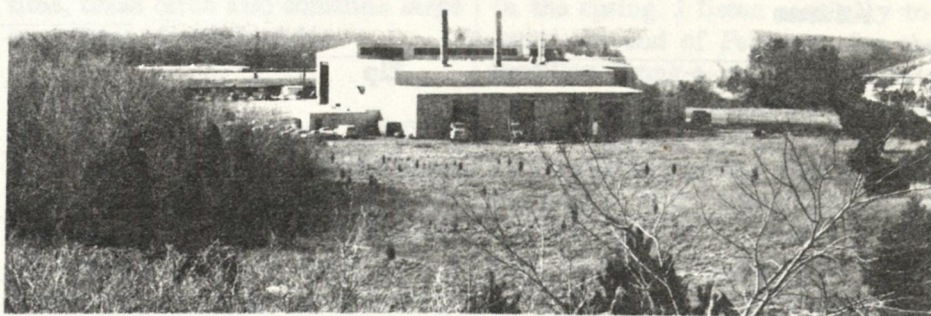
IN THE AREA of residue disposal, Carothers said, the DEP will recommend that scrubber sludges and bottom ash should be tested for leachable metals in combination (since they are normally combined for disposal) rather than separately, as was previously proposed.

Handled in this way, she said, the ash should not constitute a hazardous waste requiring disposal under hazardous waste regulations.

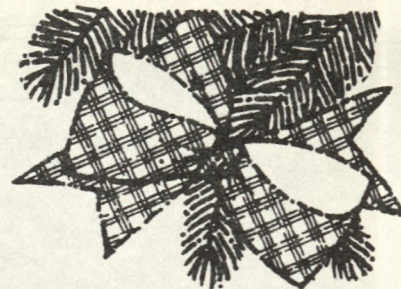
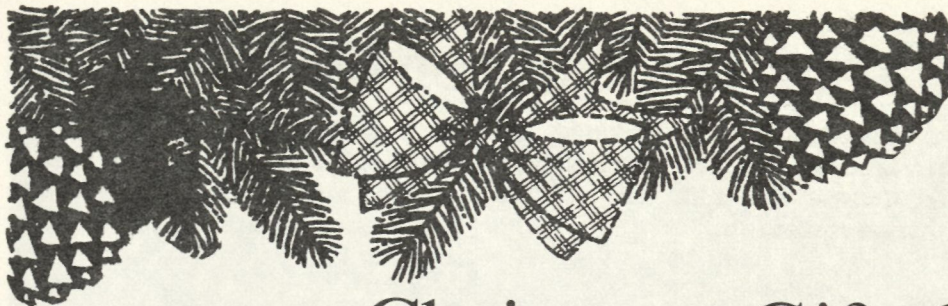
The DEP intends to treat the combined materials as a "special waste," Carothers said. "The management practices we will require and enforce will assure that the risk of environmental harm from ash disposal is minimal.

"We intend, however, to move ahead to establish interim requirements for ash disposal through the permit process and to propose rules for new ash disposal facilities as soon as possible."

Comment period on the proposed regulations has closed, but copies may still be obtained from the DEP's Planning Office, 165 Capitol Avenue, Hartford 06106. A decision is expected in mid-December. ■



Emissions control requirements assure safe emissions from resource recovery incinerators, such as the Windham Energy Recycling Facility. (DEP file photo)



Christmas Gift Offer

IF YOU'RE LOOKING FOR A PERFECT CHRISTMAS GIFT THIS YEAR, something which is both inexpensive and, yes, elegant, try giving a gift subscription to the DEP's *Citizens' Bulletin*. A gift subscription to the *Bulletin* will show people that you want to share the best things about our state of Connecticut with them. Five dollars for a whole year of the *Citizens' Bulletin* — 11 issues. You just can't beat that.

This year, we are making a special offer which we are sure will make your Christmas shopping a lot easier and will help us get the word out about the environment. If you order five one-year gift subscriptions to the *Bulletin* — total cost: \$25.00 — we will send to you, absolutely free, a beautiful, original, limited-edition print of "Connecticut, naturally," a poster by artist Michael D. Klein. The poster will be matted, personally signed and numbered, and on parchment paper. It will be sent to you, free of charge, when you give five gift subscriptions to the *Citizens' Bulletin*.

We're proud of the *Citizens' Bulletin*. We're proud that it helps people become more aware of our state and what we can do to keep it safe, healthy, and beautiful for those who come after us. The idea is that the more people who are thinking along these lines, the better. With this gift subscription offer, we think we have a deal where nobody loses.

Yes, I would like to order five gift subscriptions to the *Citizens' Bulletin*. I am enclosing a list of five names, with a check for \$25. Please send me, absolutely free, a beautiful, personally signed print, "Connecticut, naturally," by artist Michael D. Klein.

Address all correspondence to:

DEP Citizens' Bulletin
State Office Building
165 Capitol Avenue
Room 112
Hartford, CT 06106



Please send "Connecticut, naturally," to:

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The Migrating Blackbirds

by
Penni Sharp

AS THE FALL SEASON continues, many birds that have spent the summer with us gather to migrate to more hospitable regions. Some will travel long distances to their wintering grounds, while others will only shift their populations slightly southward. In fact, the blue jay at the feeder in winter may not be the same one you saw in nearby woods last summer. The winter resident may have dropped down from Maine, while the summer bird may be overwintering in New Jersey.

AMONG these fall migrants are the members of the blackbird family, the *Icteridae*. This family numbers some 88 species worldwide, with about 14 species found in eastern North America. Oddly, one of the most colorful birds, the northern, or "Baltimore," oriole is a member of the blackbird family. Blackbirds, excepting the orioles, tend to be gregarious, flocking together after the nesting season. Some species actually nest in colonies, and are found in flocks throughout the year. In many areas, blackbirds are regarded as pests. Large flocks can create a mess and pose health hazards. Some communities have even attempted to eradicate them. A flock of blackbirds can indeed be the enemy of a farmer with a newly-planted field, or of a suburban homeowner with a



The redwinged blackbird spends only the warmer months in Connecticut. Above, a female and young. (Photo: L.L. Rue III)

newly-seeded lawn. At the same time, these birds also consume large quantities of weed seeds.

PERHAPS THE BEST KNOWN member of the blackbird family in northeastern America is the redwinged blackbird (*Agelaius phoeniceus*). The redwing is an abundant fall migrant, and large flocks of these birds can be seen right now. Gone for the winter months, the redwinged blackbird is

the first of the migrants to return in the spring. I listen carefully toward the end of February for the familiar "conk-a-ree" of the male redwing and welcome the sound as the first sign of spring.

A mature male redwing is a handsome bird with bright red shoulder patches edged with yellow. Male birds spread their wings and tails and open the feathers of their epaulettes in display. The red patches are important to males when establishing territory. Studies

have been done in which the red feathers were dyed black, resulting in those birds being less successful in setting up territory and attracting a mate.

Males generally arrive at the breeding ground two to three weeks in advance of the females. Once the females appear, the business of raising the family begins. Females do the nest-building. Redwinged blackbirds prefer a wetland habitat, frequently nesting in marshes. The nest is cup-shaped, and fashioned of marsh grasses. It is commonly fastened to reeds, cattails, or to a bush near the marsh. Nests can also be found in upland fields and pastures, but always near a source of water. Three to five eggs are laid. Eggs are pale blue, with dark streaks or blotches.

During the nesting period, males are vigorous defenders of territory, driving out intruders and warning females of impending danger. The female takes primary responsibility for rearing the young.

Redwing pairs usually rear two to three broods a season, building a new nest for each clutch. Following the nesting period, redwings gather in large flocks with other blackbirds. They have usually departed from our area by mid-November.

OFTEN FOUND IN FLOCKS with redwinged blackbirds is the brown-headed cowbird (*Molothrus ater*).

The cowbird can be distinguished from other species of blackbirds by its smaller size and habit of feeding on the ground with the tail lifted high.

Male cowbirds are a glossy black, with a brown head; females and young birds are gray and nondescript.

Brown-headed cowbirds and bronzed cowbirds are the only North American brood parasites. The cowbird builds no nest. The fe-

male cowbird deposits her eggs in the nests of other birds. One theory on this is that cowbirds followed the bison herds across the plains, and therefore the birds had no time for incubating eggs and rearing their young. Whatever the reason, the system seems to work well for the cowbird.

Cowbirds lay their eggs in the nests of a wide variety of host species. Warblers, vireos, and finches are frequent targets. Strangely, the host species seems quite willing to incubate the foreign egg and to rear the young cowbird. Cowbird eggs take about 10 days to hatch, a relatively short incubation period. The young cowbird grows rapidly, often taking the food of the natural young of the host or pushing them out of the nest.

Primarily a bird of open country, the cowbird is found near farm lands, fields, and at the edges of forests. At egg-laying time, however, females will venture into wooded environments in search of nests to parasitize. Migrant cowbirds usually leave our area by the end of November and return by mid-March.

THE MOST STRIKING member of the blackbird family is the northern oriole (*Icterus galbula*). The male is a brilliant orange, with black head, wings, back, and tail, while the female is olive-brown above, and yellow-orange below. Young birds are similar in appearance to females.

Orioles are gone from our area for a longer time than the redwing or cowbird, normally departing by late September and returning the first week in May. The oriole's return is predictable almost to the day. Their arrival coincides with the leafing out of most of our trees and the blooming of the orchards. The melodic song of the oriole is one of the most welcome spring sounds. In displaying for the female, a male

oriole will bow, spread its wings and tail, all the while singing the sweet notes of its song.

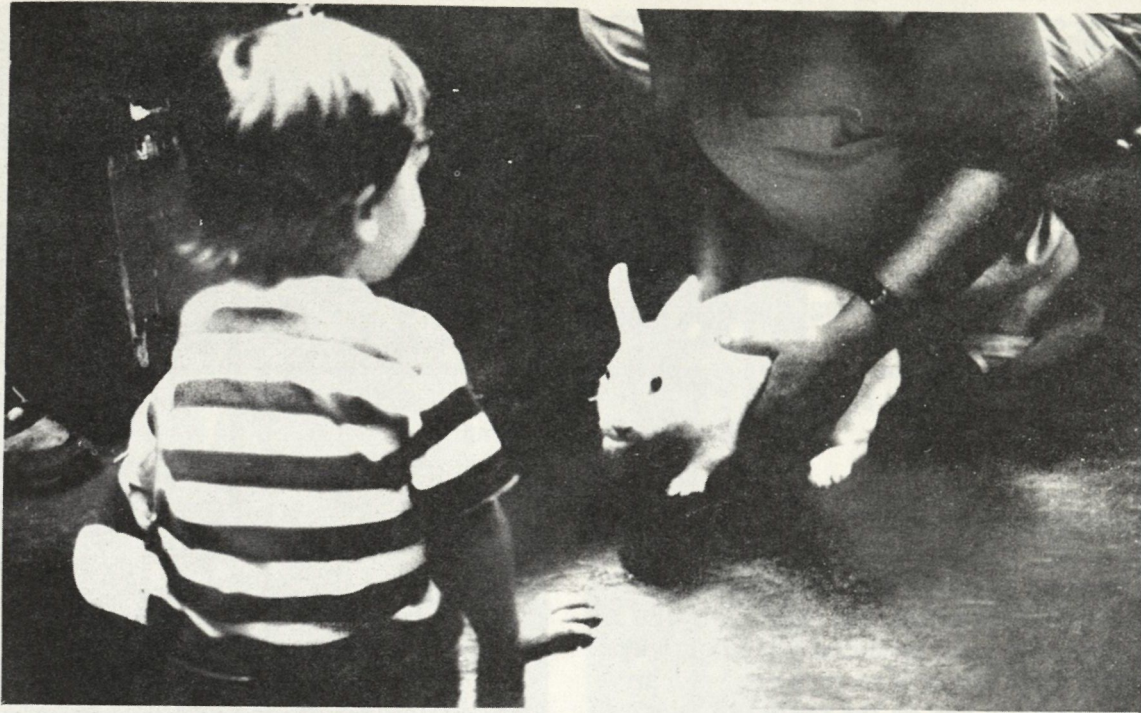
The oriole is a master nest builder. While the female is the chief builder, the male occasionally assists. The oriole's nest is a deep pendant cup attached to the outer branches of a tree. Elms are the tree of choice, but maples, birches, sycamores, and cottonwoods are also used. Nest materials consist of plant fibers, strips of bark, and string. In times past, the nests of orioles included a large percentage of horsehair. When trucks and tractors replaced farm horses, this important nest ingredient became scarce. Luckily, the bird has adapted, and finds ample substitutes for its nest building.

Four to six grayish eggs, splotted with dark brown, are laid. Once the young have hatched, they are quite vociferous, calling plaintively for food. Young orioles continue to call for food even after they have left the nest, and their calls are a familiar summer sound.

These attractive birds are found in deciduous woods and in suburban areas where there are shade trees.

ALTHOUGH the blackbirds are generally not seen during winter months, there are occasional reports of wintering flocks, usually in coastal areas. Watch for these birds during the fall as they gather in flocks and prepare to move southward. As the days lengthen in late February and early March, watch for their return. It is a sure sign of spring.

12



By encouraging curiosity in young people, Hungerford Center helps create the decision-makers of tomorrow.

A Visit to Hungerford Center

Where nature doesn't have to be terrifying

Text and photos
by
Christina Paier
Environmental Intern

A FRIENDLY GOAT roaming the farmyard in search of attention, a baby pig taking a cool dip into his water dish, and a couple of sleepy chinchillas conveniently named "Chinch" and "Chilla," are just a few of the natural wonders found at the Hungerford Outdoor Education Center.

The Center is an extension of the New Britain Youth Museum, with a total land area of 27 acres. The Center was bequeathed to the city in 1932 by Judge William C. Hungerford. An owner of show horses, Judge Hungerford built three stables and extensive riding paths.

The Hungerford Center features colorful, exciting, and educational attractions for people of all age groups. A program with the theme "Domestication of the Earth" features exhibits located in the Stanley M. Cooper Hall. Parts of the exhibit illustrate how plants, animals, and land have been tamed to provide essential needs for human survival. When Judge Hungerford built the stable in 1928, he probably never guessed that almost 60 years later each stall would open a new world of discovery and adventure, where

children can explore the wonders of nature, agriculture, geology, and solar energy.

CHERYL BURKE is acting program coordinator of the Hungerford Center. She joined the Center staff in 1985 as a naturalist/teacher, and has since devoted more and more of her time to the Center.

Burke stresses four main goals, the first being humane education. "The outdoors can encompass every part of your life," Burke states. "With every beautiful flower, every cute and cuddly rabbit, there is a world of knowledge. There is knowledge," says Burke, "beyond beauty." The next point is nutrition. The Center has a kitchen from which all sorts of delightful aromas emanate. On a good day, you can smell bread baking, preserves cooking, or a new herbal vegetable treat. On the day of our visit, some delighted children made pemmican, a native American favorite, made of berries and other natural ingredients.

The next goal on Burke's list is ecology, by which she means the harmonious relationship of human beings with the planet they live on. "Most children are afraid of the outdoors because it represents the unknown," says Burke. "The Center tries to demonstrate to children that nature doesn't have to be terrifying. A little rain, for example, never hurt anyone."

And finally, the last of Burke's goals is "outdoor exploration." The Center encourages curiosity. Someday, hopes Burke, Hungerford youngsters will grow up to be wise and critical thinkers.

Summing up environmental philosophy, Burke simply stated, "Think globally, act locally."

THE HUNGERFORD CENTER has excellent examples of Connecticut's forests, swamps, ponds, and wetland habitats. The Center is actively seeking volunteers, both adults and children over 13. Carpenters, gardeners, and handicrafters are always needed. Opportunities are offered to work with live animals, in the gardens, and on the trails. For further information, please contact Cheryl Burke, Hungerford Outdoor Education Center, 191 Farmington Ave., Kensington CT, or phone (203) 827-9064. ■



This baby pig doesn't know that he can't bathe in his drinking water.



This friendly goat is available to meet visitors to Hungerford Center.

Trailside Botanizer

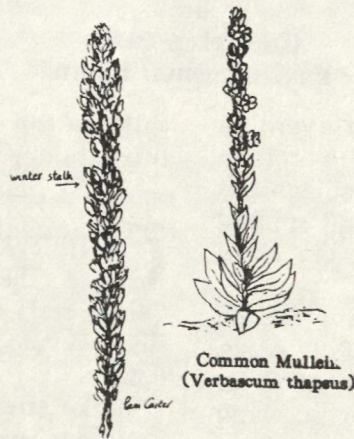
by
Gale W. Carter
Illustration by
Pam Carter

The woody dried remains of the dense flower spikes of common mullein (*Verbascum thapsus*) are very picturesque as they stand, gaunt and ghostly, in many a vacant lot during the winter months. This plant on occasion may reach a height of as much as seven feet.

Mullein is a biennial, with only a rosette of woolly leaves appearing the first year. The following year, the flower spike appears. Blossoming time is from June to September, with only a few flowers appearing at a time.

The flower is cross-pollinated in a special way. The lower three petals of this five-petaled flower open first, and the pistil is pollinated by a bee. The pistil drops downward

© Copyright 1987, Gale W. Carter.



and the upper two petals open, exposing the stamens. As the bee leaves the flower, it picks up a new supply of pollen for the next flower.

Mullein was brought to America by the Puritans, to be planted in the early Colonial gardens because it had many uses. It has since escaped to fields, vacant lots, and roadsides.

The common name refers to its

soft, woolly leaves and is derived from the Latin "mollis," meaning soft.

Mullein leaves were once used for wicks for lamps, and the flower stalks, dipped in tallow, were used as torches. Indians lined their moccasins with the felt-like leaves and Quaker ladies rubbed their cheeks with mullein leaves as a substitute for rouge.

Medically, a tea made from mullein leaves was used for reducing fever associated with colds and flu. The dried leaves were smoked as a treatment for asthma. Rosettes of mullein leaves are now planted in gardens for the blind so that they may enjoy the pleasure of touching the velvety leaves.

Goldfinches pick away at the flower spikes in search of the numerous seeds, while humming birds seek out the fine hairs that are present on the mullein leaves to use as a lining for their nests. ■

The Bulletin Board



John G. Fleming, left, was awarded the 1986 Environmental Award for his work on Environment/2000. Presenting the award is Michael DeLand, Administrator, EPA Region I.

Fleming Receives Award for Environment/2000

John G. Fleming, of Woodbury, was awarded a 1986 Environmental Merit Award, the highest award given by the U.S. Environmental Protection Agency's Region I Office.

Fleming, who served as the chairman of the Commission on Connecticut's Future for over eight years, was nominated for the award for his work with the Connecticut DEP on the development of its *Environment/2000* program.

Fleming was one of 11 recipients, representing most of the New England states, of 1986 Environmental Merit Awards. The awards were presented on May 7 at the annual New England Environmental Forum at Boston's Faneuil Hall.

The DEP used a process developed by the Commission on Connecticut's Future to develop *Environment/2000*, a set of 42 diverse en-

vironmental goals along with strategies for their achievement. "It's important," Fleming said, "to not focus on the document, but on the process. These projects don't produce documents, but a strategic management process."

The Committee on Connecticut's Future, Fleming said, has worked on developing a similar planning process with several state agencies. "The DEP is in the forefront of state agencies in the development of this process," he added.

Since fall, 1986, the DEP's *Environment/2000* plan has been the subject of a series of meetings and workshops designed to encourage public review and participation in developing the product.

Fleming, who is retired, worked as an engineer for the Bristol Company and was an executive with

IBM, where he described himself as at one point serving as the "ecological conscience for the corporation." He currently serves on the Governor's Council for Development of Agricultural Industry. ■

E/2000 Formally Adopted

On September 3, 1987, Governor William A. O'Neill announced his formal adoption of *Environment/2000: Connecticut's Environmental Plan*. This document is the result of more than three years of work both by the DEP and concerned citizens of Connecticut.

In adopting the Plan, the governor stated the following: "I have reviewed the document entitled *Environment/2000: Connecticut's Environmental Plan*, and have determined that it meets the intent of providing this state with a statewide environmental plan for the management and protection of the quality of its environment and natural resources in furtherance of legislative policy.

"In approving this Plan, I call together all branches and levels of government, business and industry, conservation organizations, educators, and the individual citizen to actively participate as trustees of the environment by working toward the achievement of Connecticut's environmental future as pictured in *Environment/2000: Connecticut's Environmental Plan*."

For copies of this document and further information on *Environment/2000*, please call Tessa Gutowski, 566-2588. ■

Land Trusts Convocation

The Fifth Annual Convocation of Land Trusts will be held on Saturday, November 7, 1987, from 8:45 a.m. to 3:30 p.m. at The University of Hartford. The Convocation is sponsored by The Connecticut Land Trust Service Bureau, a project of The Nature Conservancy.

This Convocation is designed to provide a foundation for acquiring the skills and knowledge needed to meet the challenge of open space protection in New England. Anyone interested in open space protection is encouraged to attend.

For more information, please call the Connecticut Land Trust Service Bureau at (203) 344-9867. Registration fee is \$20.00 and is payable to The Nature Conservancy, 55 High Street, Middletown, CT 06457. ■

Museum of Natural History

"Hawks at My Wingtips," a slide talk and book-signing by Bill Welch will be held at The Connecticut State Museum of Natural History on Sunday, November 22, at 3 p.m. in the Benton Connection, Jorgensen Auditorium Building. Admission is free.

A Harvest Fest Buffet featuring Connecticut foods, wines, beverages, and live music will be held on November 8 from 4 - 7 p.m., at The Connecticut State Museum of Natural History at The University of Connecticut in Storrs. This event is co-sponsored by The Connecticut Department of Agriculture. Reservations are required. Tickets are \$20 per person for non-members, \$10 for members, free for Museum volunteers. Call (203) 486-4460 for information. ■

Lecture Series at Dinosaur State Park

The following lectures will be presented at Dinosaur State Park, West Street, in Rocky Hill. All presentations will begin at 7:30 p.m., and the cost of admission is \$2.50.

Tuesday, November 10, 1987 — "The History of Paleontology in the Connecticut Valley" Mr. Nicholas McDonald, Westminster School.

Through almost 200 years of fossil hunting in the Valley, the techniques of collecting and identifying fossils have changed from the casual observations of old to the detailed descriptions of today. The contributions of Benjamin Silliman from Yale, Edward Hitchcock from Amherst College, and S. Ward Loper from Wesleyan, trace these changes. Descriptions of fossil localities and their bounty (plant remains, fish, dinosaur tracks) will be presented by a paleontologist currently working in the Valley.

Tuesday, February 16, 1988 — "Landscapes and Geology of Connecticut" Mr. Sidney Quarrier, Natural Resources Center, DEP.

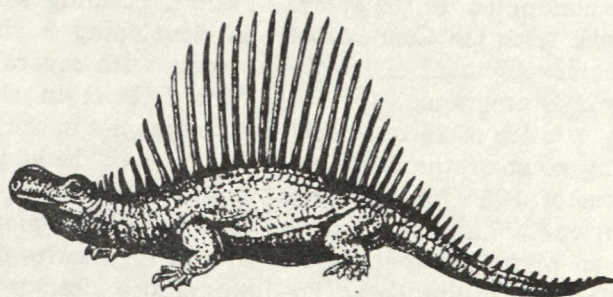
An illustrated lecture describing the regions of the state, their geo-

logic features and history, and ways that the land has affected human affairs. Mr. Quarrier has directed many programs for the State Geological Survey, including the management of the State Bedrock Geological Map and the book, *The Face of Connecticut*.

Tuesday, March 15, 1988 — "Evolution of the Reptiles before the Dinosaurs" Dr. Richard Liebe, Professor of Geology, State University, New York.

The evolution of the reptiles will be traced from the first appearance of the stem reptiles (the *Cotylosaurs*) in the late Paleozoic, to the appearance of the dinosaurs toward the end of the Triassic. One of the groups that evolved from the stem reptiles during the Triassic was the thecodonts. These tiny, bipedal forms were soon to become extinct, but not before they gave rise to the dinosaurs and other reptiles which ruled the land, sea, and sky for the remainder of the Mesozoic, almost 150 million years.

For further information on these and other events at Dinosaur State Park, please phone 529-8423. ■



Map of the Month

by
Alan Levere

Senior Environmental Analyst

Whether you shop early or late for Christmas gifts, if information about Connecticut's landscape will fill someone's stocking or a place beneath the tree, the Natural Resources Center's book, *The Face of Connecticut: People, Geology, and the Land*, might just fill the bill.

This excellent book was recently recognized as a "Notable Document," and it is our best seller with good reason. Its 228 pages are filled with maps, drawings, black and white and superb color photographs of the state as many Nutmeggers have never seen it. The text is so comfortably readable that no matter what your special area of interest, the book hand holds you

through its pages in such a way as to sneak good lessons of history, geology, and geography into the realm of interest.

If you know of any fishermen who have searched for, but could not find, a collection of maps showing the depths of various lakes around the state, may we suggest



our *Guide to Lakes and Ponds of Connecticut*. This new publication contains maps and information on 73 of Connecticut's lakes and ponds in one 85-page document. For each waterbody, there is a map of the bottom contours (bathymetry) and a listing of fish types, boat launch locations, information on access, fishing types, fishing regulations, and onsite parking conditions. Ice fishing, anyone?

The Guide to Lakes and Ponds of Connecticut is available for \$4.65 and *The Face of Connecticut* for \$12.95, plus 7 1/2 percent sales tax, and \$2.00 per order handling charge. To order please write to: DEP, Natural Resources Center, Map Sales, Room 555, 165 Capitol Avenue, Hartford, CT 06106, or stop on up. Checks payable to: DEP-Publications. ■

The Night Sky

by
Francine Jackson

November is usually a nice month. Summer is long gone, but winter hasn't yet announced itself, so the days are cool but not cold, and the evenings are generally crisp and (most importantly) rather clear. A perfect time to introduce yourself to the nighttime sky.

And waiting to be introduced this month is an object that can be seen very easily, with no help at all: the planet Jupiter. Simply go outside, face south, and look up. Jupiter will be the beacon outshining everything else (ignoring the moon, of course).

At about 88,000 miles in diameter, Jupiter is the largest planet in our solar system. It travels around

the sun about five times farther away than the Earth. This "relative" proximity to us, plus its large size, allows Jupiter to shine so beautifully. As an evening object, it is outclassed only by the planet Venus (too close to the horizon to be easily found this month).

Because Jupiter can be so readily found right now, it is a good demonstrator of how to distinguish between stars and planets. Stars shine by their own light; because of their great distances to us, we see them as points of light. When this light enters our atmosphere, it tends to bounce through the various layers, resulting in a twinkling effect. Planets reflect the light received from our sun — they do not emit their own. Also, because planets are much closer to us than stars, they appear as little disks, rather than points. This tends to even out the light from a planet, making its light appear steadier than starlight. You can especially see this when a planet is close to the horizon. Its

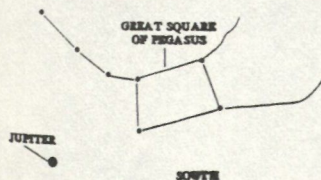
surrounding stars will appear to jump around, while the planet will be relatively calm.

If you have a pair of binoculars, aim them at Jupiter. You may see some or all of its four largest moons. Jupiter actually has about 17 satellites, but most can be seen only with the help of either professional equipment or a spacecraft. To discover which of the four you're seeing, consult an observer's handbook or astronomy magazine. ■

Endnote

"Each atom perpetually sings its song."

Pythagoras



A Thanksgiving Message

Governor William A. O'Neill proclaimed September 25, 1987, to be Indian Day in the State of Connecticut. As we are drawing near the Thanksgiving holiday, it seemed appropriate to reprint some of the remarks the governor made in that proclamation.

"The first inhabitants of Connecticut arrived some 10,000 years ago, as soon as the last glacier to cover New England had melted away to the north. By the time the first Europeans arrived on these shores, the several thousand Indians living in the region had acquired impressive skills in tool-making and farming and knowing the ways of the land.

"The Colonists learned much from the Indians; indeed, the earliest settlers owed their very survival to them. But as much as the Indians were willing to share, the Colonists wanted more. So quickly and so thoroughly did the white man shatter the existence of the Indians that today we retain only splinters of knowledge regarding their lives and habits.

"Yet, the Indians' influence on even today's society is of basic importance. Their villages, for instance, became the Colonists' towns and, today, our cities. The Indian paths became the Colonists' trails and, eventually, our modern highway system. The Indians continue to shape our lives even long after they had been driven off.

"It is essential that we remember and acknowledge those who came before us on this land — and those few who live among us still: the Golden Hill Paugussett, the Mashantucket Pequot, the Schaghticoke, the Paucatuck Pequot, and the Mohegan.

"It is important that the spirit of the Indian remains alive within us and across the face of modern-day Connecticut. I urge all our citizens to recognize the important contributions that American Indians have made to our society and our culture and that, particularly, this lesson be taught in our schools."

From the staff of the *Citizens' Bulletin* to all of our readers, a very Happy Thanksgiving.



DEP Citizens' Bulletin

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